

Maine Turnpike Authority
York County
Kennebunk, Maine
A-832-71-A-N

**Departmental
Findings of Fact and Order
Air Emission License**

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

The Maine Turnpike Authority (MTA) has applied for an Air Emission License, permitting the operation of emission sources associated with their proposed air sparge/soil vapor extraction system (AS/SVE) located at the Mile 24 Northbound Service Area of the Maine Turnpike in Kennebunk, Maine.

B. Emission Equipment

MTA is licensed to operate the following equipment:

Process Equipment

<u>Equipment</u>	<u>Pollutant</u>	<u>Pollution Control Equipment</u>
AS/SVE System	VOC / HAP	Catalytic Oxidizer

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>
Catalytic Oxidizer Burner	1.0	10.6	Propane, negligible

C. Application Classification

A new source is considered a major source based on whether or not expected emissions exceed the “Significant Emission Levels” as given in Maine’s Air Regulations. The emissions for the new source are determined by the maximum future license allowed emissions, as follows:

<u>Pollutant</u>	<u>Max. Future License (TPY)</u>	<u>Sig. Level</u>
PM	0.2	100
PM ₁₀	0.2	100
SO ₂	0.01	100
NO _x	0.7	100
CO	0.1	100
VOC	4.0	50
Total HAP	2.0	10 single/25 total

Therefore, this source is determined to be a minor new source and has been processed as such.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Air Sparge / Soil Vapor Extraction System (AS/SVE)

58,000 gallons of unleaded gasoline was reported to have leaked from a transfer line at the Mile 24 Northbound service Area between May 1987 and January 1988. MEDEP implemented emergency remedial measures that removed approximately 24,000 gallons of gasoline.

In 1992, MTA and the C.N. Brown Company entered into a consent decree with MEDEP that required certain remediation activities including submittal and implementation of a Remedial Action Plan (RAP). In April 2001, a revised RAP was submitted which included a proposed design for an AS/SVE system. The revised RAP was approved by MEDEP on October 19, 2001.

The proposed AS/SVE system will consist of an air sparging system to inject air beneath the water table and a soil vapor extraction system to collect the injected air. The injected air serves to volatilize and carry away the VOCs present in the subsurface and to enhance aerobic biodegradation of VOCs in the subsurface by naturally occurring aerobic microorganisms.

It is estimated that the initial VOC removal rate will be approximately 100 lbs per hour. The initial removal rate for similar AS/SVE systems is typically short lived. However, the removal rate is expected to remain above the Chapter 115 applicability threshold of 10 lbs per hour or 100 lbs per day for six months or more.

Emissions from the AS/SVE system will be controlled by a catalytic oxidizer. The catalytic oxidizer will be a Global Technologies Model-20 Remedi-Cat or equivalent supplied with 3.0 cubic feet of precious metal monolith catalyst. It will be equipped with a 1.0 MMBtu/hr propane-fired burner with a recuperative heat exchanger. Emissions will exit through a 15 foot stack. The calculated minimum destruction efficiency for this system is 98%.

Based on supplier information, the critical process parameter is catalyst outlet temperature, which must be maintained above 600°F. The catalytic oxidizer will be equipped to monitor and record on a strip-chart the catalyst outlet temperature.

Based on the above configuration, the use of the proposed catalytic oxidizer on the AS/SVE system is determined to meet BACT.

C. Annual Emission Restrictions

MTA shall be restricted to the following annual emissions, based on a 12 month rolling total:

Total Allowable Annual Emission for the Facility
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Tons/Year</u>
PM	0.2
PM ₁₀	0.2
SO ₂	0.01
NO _x	0.7
CO	0.1
VOC	4.0
Total HAP	2.0

III.AMBIENT AIR QUALITY ANALYSIS

New Source

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a minor new source shall be determined on a case-by case basis.

Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-832-71-A-N subject to the following conditions:

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which

- any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions.
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
 - (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.
 - (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
 - (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. § 353.
 - (6) The license does not convey any property rights of any sort, or any exclusive privilege.
 - (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
 - (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
 - (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.

- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
 - b. pursuant to any other requirement of this license to perform stack testing.
 - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
 - (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to

a demonstration of compliance under normal and representative process and operating conditions.

- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.
- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.
- (16) AS/SVE and Catalytic Oxidizer
 - A. MTA shall fire only propane or natural gas in the Catalytic Oxidizer
 - B. The Catalytic Oxidizer shall be operated at all times that the AS/SVE is in operation.
 - C. The Catalytic Oxidizer shall be operated in accordance with manufacture specifications. The catalyst outlet temperature shall be maintained above 600°F demonstrated by continuous monitoring and recording of the outlet temperature.
 - D. Visible emissions from Catalytic Oxidizer shall not exceed 10% opacity on a 6-minute block average basis.
- (17) MTA shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605-C).
- (18) MTA shall pay the annual air emission license fee within 30 days of July 31st of each year. Pursuant to 38 M.R.S.A. Section 353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 M.R.S.A. Section 341-D, Subsection 3.

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(19) The term of this Order shall be for five (5) years from the signature below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2002.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
MARTHA G. KIRKPATRICK, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 7/3/02

Date of application acceptance: 7/8/02

Date filed with the Board of Environmental Protection: _____

This Order prepared by Lynn Ross, Bureau of Air Quality.